

REMARKS

Status of the Claims

Claims 1-62 are pending in the present application. Claims 46-57 are withdrawn from consideration. Claims 59-62 have been added. The basis for claims 58-62 includes the description on page 6, last paragraph and page 52, lines 3-6 of the specification.

Information Disclosure Statement

The Examiner is respectfully requested to return an initialed PTO-1449 for the Information Disclosure Statement filed on October 25, 2001. Similarly, the Examiner is respectfully requested to acknowledge receipt of the paper filed September 10, 2001, advising the Examiner of various copending applications. ✓

Requirement for Restriction

Restriction to one of the inventions of Group I, claims 1-45 and 58 or Group II, claims 46-57, has been required by the Examiner under 35 U.S.C. 121. The requirement for restriction is respectfully traversed. Reconsideration and withdrawal thereof are requested.

Applicants affirm the election of Group I, with traverse. The traversal is based upon MPEP section 821.04 "Rejoinder". Withdrawn process claims which depend from or otherwise include

all the limitations of the allowable product claim will be rejoined. Therefore, upon allowance of the invention of Group I, the invention of Group II should be rejoined therewith.

#### The Specification

The specification has been amended to correct minor typographical errors. For instance, the first paragraph of the specification inverts two numbers within the serial number of the provisional application. However, the correct serial number of the provisional application is present on both the Official Filing Receipt and on the executed combined Declaration and Power of Attorney. Therefore, the Examiner's comments in paragraph 5 of the Office Action are not understood. X In any event, the first sentence of the specification has been amended to clarify the record. No new matter has been added. /

#### Rejections Under 35 U.S.C. 112

Claims 1-45 have been rejected by the Examiner under 35 U.S.C. 112, second paragraph, for the reasons set forth in paragraph 6 of the Office Action. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

Claim 8 has been amended in the manner suggested by the Examiner. This is a non-narrowing claim amendment.

Claim 1, element (iii), has been rewritten in Markush /

format. This is a non-narrowing claim amendment.

Claim 1, element (ii), has been rewritten in Markush format. This is a non-narrowing claim amendment.

The Examiner's requirement that (1) the order of the various layers should be specified and (2) the definition of "copolymer blend" should be clarified is traversed. In both cases, the Examiner has not set forth a *prima facie* case to justify the rejection. For instance, the Examiner provides no reasoning as to why it is necessary to specify the layer order. Without such reasoning, there is no *prima facie* case. Moreover, without such reasoning, applicants cannot determine whether the Examiner's position is reasonable or provide arguments to rebut the rejection. Therefore, the rejection is without basis and must be withdrawn.

Similarly, the Examiner indicates that the definition of the copolymer blend must be clarified. What is the basis for this rejection? Applicants submit that the definition is clear. The copolymer is functionally defined. The Examiner has provided no rationale to the contrary. This rejection is without basis and must be withdrawn.

The Examiner has not established why the layers must be specified and why the definition of "copolymer blend" must be clarified. Thus, the burden has not shifted to applicant to rebut the Examiner's position. Accordingly, this rejection

should be withdrawn or the Examiner should clarify the rejection in any subsequent non-final office action.

Prior Art Rejection

The Examiner states in paragraph 7 of the Office Action that Claims 1-7, 9-37 and 39-45 are rejected under 35 U.S.C. 103(a) over U.S. Patent 5,798,179 to Kronzer, and for claim 8 in view of WO 96/08367. Apparently, claims 38 and 58 are free of this rejection. Clarification is requested.

The rejection in paragraph 7 is traversed. Reconsideration and withdrawal thereof are requested.

The present invention

The present invention as recited in claim 1 relates to a heat-setting label sheet, which comprises:

- (i) a support;
- (ii) a pressure sensitive adhesive layer comprising at least one material selected from the group consisting of: (a) a polyester having a glass transition temperature (T<sub>g</sub>) of less than 0°C, (b) an acrylic polymer having a glass transition temperature (T<sub>g</sub>) of less than 0°C, and (c) a copolymer blend having a glass transition temperature (T<sub>g</sub>) of less than 0°C;
- (iii) an Adhesion Layer comprising at least one material selected from the group consisting of a thermoplastic polymer

which melts in the range of 50-250°C, a wax which melts in the range of 50-250°C, and combinations thereof, (wherein the adhesive layer is capable of being removed from the support without heat; )

t(ii)



(iv) an optional opaque layer comprising a styrenebutadiene latex, thermoplastic polymer, elastomer and optional pigment; and

(v) a second optional opaque layer comprising vinyl acetate-ethylene copolymer, thermoplastic elastomer, elastomer and optional pigment.

#### The Kronzer Reference

Applicants object to the Examiner's liberal and improper use of "Official Notice" or assertions of inherency or common knowledge. If the art is so well recognized, then Applicants request that the Examiner support such well-recognized scientific principles with a reference supporting his various positions. Note, for instance, the last paragraph on page 5 of the Office Action. The Examiner's position is patently incorrect. If Kronzer's transfer paper is imaged onto opaque layers, then the image will be totally blocked out to the viewer upon transfer. In this regard, Kronzer transfers the image by applying the image-side down and then ironing the back side of the support. Similarly, note the last paragraph on page 6, the third paragraph on page 7 and the second paragraph on page 9 of the Office Action. When the Examiner cannot find the art, he is either

taking Official Notice of the existence of the art or assumes that the invention is inherent or common knowledge. Applicants object to this practice. If the Examiner cannot find art to support his position, then he should indicate that certain claims are allowable. Applicants cannot argue against art that does not exist.

Based upon the Examiner's remarks, the Examiner's understanding of the Kronzer patent is not entirely correct. Claim 1 has been amended to clarify and emphasize that the adhesive layer is capable of being removed from the support without heat. This limitation in combination with the other limitation of claim 1 is nowhere present in the Kronzer patent. Indeed, this limitation is contrary to the teachings of the cited reference and would destroy the teachings thereof.

More specifically, the product of Kronzer addresses a different problem in the art than the claimed invention. In contrast, the product of the present invention is designed for use in a new process nowhere suggested by Kronzer. In this regard, Kronzer seeks to overcome problems relating to the need for peeling the support from the receptor while the sheet is still hot. In the conventional transfer process, the transfer sheet is imaged, the imaged side of the transfer sheet is placed face down against the receptor (i.e. tee shirt), and the back of the receptor is heated to melt the transfer coating and transfer

the image and coating to the receptor. This is done by applying heat with an iron to the back of the imaged transfer sheet. The problem in the art was that the sheet had to be removed from the receptor while the transfer material was still warm. Kronzer attempted to overcome this problem as discussed in col. 2, lines 17-30, as follows:

In spite of the improvements in heat transfer papers, they all require removal of the carrier or base sheet from the material to which an image has been transferred while the carrier or base sheet still is warm. This requirement causes unique problems when transfer is attempted with a hand-held iron because of both uneven heating which is characteristic of hand ironing and cooling of previously ironed portions of the transfer material. Consequently, there is an opportunity for an improved heat transfer paper which will permit removal of the carrier or base sheet after it has cooled, i.e., a printable heat transfer paper having cold release properties.

Thus, Kronzer's product is intended to be removed from the receptor after being ironed and after being allowed to cool. This is entirely different than the claimed invention. The claimed adhesive layer of the instant invention is capable of being removed from its support before or without heating. This is contrary to Kronzer and not contemplated by Kronzer. *cold release*

It would be useful for the Examiner to understand the non-elected process in order to understand the claimed invention. Briefly, the claimed invention is preferably imaged in the first step, like in Kronzer. Of course, there is no need to reverse

the image in the present process since the image that is viewed will preferably be facing the viewer when placed upon the receptor in the same orientation as it is on the transfer sheet. This is impossible with the Kronzer invention, since the transferred image of Kronzer is viewed through the backside of the image. In the present invention, prior to heating, the imaged (or non-imaged) adhesive layer is peeled without application of heat or water or chemical aids. The peeled adhesive layer is preferably placed image-side facing the user and only then is heat applied to drive the image into the receptor. The claimed product is designed for use in this novel process that is nowhere suggested by Kronzer.

In order to further understand the Kronzer product, the Examiner's attention is directed to col. 4, lines 5-15, as follows:

As used herein, the term "cold release properties" means that once an image has been transferred to a substrate, such as cloth, the backing or carrier sheet (the first layer in the present invention) may be easily and cleanly removed from the substrate after the heat transfer material has cooled to ambient temperature. That is, after cooling, the backing or carrier sheet may be peeled away from the substrate to which an image has been transferred without resisting removal, leaving portions of the image on the carrier sheet, or causing imperfections in the transferred image coating.

As the Examiner will note, the Kronzer product is designed to have different properties than the claimed sheet. The claimed



Adhesion Layer is designed to be peeled or removed prior to heating. The Kronzer sheet is designed to be peeled only after heating and more specifically, only after cooling after the heat is applied. Kronzer nowhere contemplates first separating the coatings prior to heating. Kronzer's invention is only designed to be peeled subsequent to heating.

Kronzer's Examples further support Applicants' position. See col. 12, lines 12-43, Col. 14, lines 26-44, Col. 17, line 64-col. 18, line 5. After heating, the forces binding the Kronzer compositions to the receptor are apparently stronger than the forces binding the Kronzer compositions to the support, thereby allowing cold peeling. In the claimed invention, the Adhesion Layer may be simply removed prior to heating, contrary to the Kronzer invention.

Moreover, another advantage of the present invention over the Kronzer disclosure is discussed on page 5, line 26 through page 6, line 6 of the present specification, as follows:

One advantage of the present invention is that the heat-setting label sheets of the present invention are not imaged in reverse (i.e., printed as a mirror image of the transferred image), which is typical in the transferable media arts. That is, since the heat sealing element of the heatsetting label sheets of the present invention is peeled off the base sheet and placed on the receptor with the back of the image resting on the receptor (i.e., face up), the image does not need to be printed in reverse and placed face down on the receptor element. Since the heat-setting label sheets of the present invention do not need to be printed in reverse it is easier to use craft-type

markers to image the heat-setting label sheet of the present invention than typical transfer sheets.

Since the claimed process is designed to undergo a different process than Kronzer, the design criteria for the resulting products are not the same. This is reflected, in part, by the claimed limitation "wherein the adhesive layer is capable of being removed from the support without heat".

Applicants further note that Kronzer does not contemplate the claimed "pressure sensitive adhesive layer" which is intended to act in a similar way as the well-known yellow "post-it" notes which are pervasive in every office. There is no suggestion that Kronzer contemplates a corresponding layer allowing his transfer layer to be merely peeled from the support prior to heating. Indeed, such a design would be contrary to the Kronzer invention. Finally, there is also no layer corresponding to the claimed "pressure sensitive adhesive layer".

The remaining claims are allowable for the same reasons as claim 1. The Examiner's further reliance on Avery Dennison with respect to claim 8 does not overcome the deficiencies discussed above. Therefore, the prior art rejection of the claims under 35 U.S.C. 103(a) should be withdrawn by the Examiner.

If the Examiner has any questions concerning this application, he is requested to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petitions for a three month extension of time for filing a reply in connection with the present application, and the required fee of \$460.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

The paragraph beginning on page 51, line 16 and ending on page 52, line 6 has been amended as follows:

To transfer the image, the heat-setting label sheet is imaged by, for example, an ink jet printer. The heat sealing material (or label portion) is peeled away from the base and placed on the receptor element. A heating device (i.e., a hand iron or heat press) is used to apply heat and pressure to the [support] label which in turn activates the heat-sealing material and the label adheres to the receptor. The temperature range of the hand iron is generally in the range of 110 to 220°C with about 190°C being the preferred temperature. The heat press operates at a temperature range of 100 to 220°C with about 190°C being the preferred temperature. Alternatively, the [The] heating device is placed over the non-image side of the support and moved in a circular motion (hand iron only). Pressure (i.e., typical pressure applied during ironing) must be applied as the heating device is moved over the label or alternatively over the support (see Figure 1). After about two minutes to five minutes (with about three minutes being preferred) using a hand iron and 10 seconds to 50 seconds using a heat press (with about twenty seconds being preferred) of heat and pressure, the transfer device is removed from the label or alternatively the support.

Optionally, a sheet of paper or protective film may be placed in-between the label and heating device to protect the image and/or upper layers of the label from damage caused by the heating device during the heating period.

The first paragraph on page 1 has been amended as follows:

The contents of Provisional Application U.S. Ser. No. [60/148,652] 60/148,562, filed August 13, 1999, on which the present application is based and benefit is claimed under 35 U.S.C. § 119(e), is herein incorporated by reference.

IN THE CLAIMS

The claims have been amended as follows:

Claim 1 (Amended) A heat-setting label sheet, which comprises:

- (i) a support;
- (ii) a pressure sensitive adhesive layer comprising at least one material selected from the group consisting of: (a) a polyester having a glass transition temperature (Tg) of less than 0°C, (b) an acrylic polymer having a glass transition temperature (Tg) of less than 0°C, [or] and (c) a copolymer blend having a glass transition temperature (Tg) of less than 0°C], said polyester, acrylic polymer or copolymer blend having a glass transition temperature (Tg) of less than 0°C];

(iii) an Adhesion Layer comprising at least one material selected from the group consisting of a thermoplastic polymer which melts in the range of 50-250°C, a wax which melts in the range of 50-250°C, [or] and combinations thereof, wherein the adhesive layer is capable of being removed from the support without heat;

(iv) an optional opaque layer comprising a styrenebutadiene latex, thermoplastic polymer, elastomer and optional pigment; and

(v) a second optional opaque layer comprising vinyl acetate-ethylene copolymer, thermoplastic elastomer, elastomer and optional pigment.

Claim 8 (Amended) The heat-setting label sheet of claim 1, wherein an adhesive layer is placed between the support and the Adhesion Layer.

Claims 59-62 have been added.